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Demands of Social Change across Multiple Domains of Life and Across Time at the
Advent of the Global Financial Crisis

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Abstract

Longitudinal data collected between 2005 and 2009, i.e., before and during the outset of the Global Financial Crisis, is analyzed to investigate the interplay of trajectories of perceived demands in the domains of work and family. Quadratic latent growth curve models were used to mimic the increase of demands in $N = 1,296$ young adults from Germany as structural uncertainty increased in the second half of the study. Although we hypothesized that these trajectories would depend on core socio-demographic variables, we found no evidence that this is the case. Demands in the different domains of functioning develop highly parallel, reflect possible spill-over effects between the domains, and seem to indicate changes of objective uncertainty during the outset of the global financial crisis. Furthermore, we find evidence for both cumulative disadvantage and inoculation effects. We argue that the global financial crisis has left a mark on individuals in terms of more perceived uncertainty and higher perceived expectations.

Keywords: demands; global financial crisis; social change

Demands of Social Change across Multiple Domains of Life and Across Time at the Advent of the Global Financial Crisis

What started in summer 2007 as a regionally restricted crisis of the so-called subprime housing market quickly emerged into a Global Financial Crisis (GFC) that is considered as the worst since the Great Depression by many economists (for details, see Foster & Magdoff, 2009). The GFC first and foremost threatened the existence of large financial companies worldwide and reached its preliminary peak on September 15, 2008, with the collapse of the Lehman Brothers Holdings, Inc., that hitherto had been the fourth-largest investment bank in the United States. Throughout the world, national states launched bailout and other rescue programs, which in turn resulted in a surge of public debt and major economic downturn for the next years. Among other macro-level consequences, the GFC produced a crash in the stock markets, a rise in insolvencies of companies, massive lay-offs, evictions, foreclosures, and a widespread uncertainty concerning the general sustainability of the capitalist economic system (e.g., Claessens, Dell’Ariccia, Igan, & Laeven, 2010; Kotz, 2009). Given the large scale of consequences, it is not surprising from a developmental science perspective that the economic situation in the first decade of the new millennium had major repercussions on individual adjustment and mental health (e.g., Deaton, 2012; Economou et al., 2013; Gili, Roca, Basu, McKee, & Stuckler, 2012).

More generally, one could argue that individual adaptation and development can only be understood when considering the various ecological contexts of development and their interrelated effects on the individual (Bronfenbrenner, 1992; Ford & Lerner, 1992). Taking this notion seriously, Silbereisen and colleagues (Pinquart & Silbereisen, 2004; Silbereisen, Pinquart, & Tomasik, 2010; Silbereisen, Tomasik, & Reitzle, 2012) have suggested a model which attempts to describe and explain the effects of social and

economic change at the macro level on adaptation and development at the individual level. The core assumption of the model is that macro-level effects never have a direct impact on the individual, but first have to translate down to the individuals' micro contexts of development, such as the work place, the family, or the neighborhood (see Silbereisen & Tomasik, 2011b). Within these micro contexts, they are perceived by individuals (and this becomes psychologically effective) in terms of new *demands* that index a new state of affairs relative to what the individual was accustomed to and thus act as "situational imperatives" that require some kind of adaptive behavior (Tomasik & Silbereisen, 2009; see also Elder, 1985; Hedström & Swedberg, 1998). For instance, given the economic upheaval related to the GFC, individuals may experience heightened work-place uncertainty or the need to find a new job in a different sector of employment. Previous research has not only shown that these demands indeed trigger attempts to regain control over the situation in different age heterogeneous samples (Tomasik, Lechner, Silbereisen, & Wasilewski, 2013; Tomasik & Silbereisen, 2014; Tomasik, Silbereisen, & Piquart, 2010), but also that an accumulation of these demands is moderately associated with lower levels of subjective well-being measured by different indicators (Grüner & Piquart, 2011; Körner, Silbereisen, & Cantner, 2014; Lechner, Tomasik, Silbereisen, & Wasilewski, 2013; Silbereisen & Tomasik, 2011a). The latter finding probably has three interrelated causes. First, demands reflect increasing uncertainty, which has been shown to constitute a powerful stressor and to predict higher depression and anxiety in experimental research (e.g., Greco & Roger, 2003); second, a high load of demands can represent a serious threat to the self (e.g., Obschonka, Silbereisen, & Wasilewski, 2012; Westerhof & Keyes, 2006); and third, an accumulation of demands can overburden the individuals' reserve capacities and thus endanger the successful attainment of important developmental tasks (Tomasik &

Silbereisen, 2009, 2011). Hence, analyzing demands of social change and their prevalence in the population is not only necessary from a developmental science perspective that attempts to understand the various influences of the social ecology on individuals (see Oishi & Graham, 2010), but also highly relevant from a public health and social policy perspective (see Silbereisen, Ritchie, & Overmier, 2010).

In the current study, we analyzed the intraindividual trajectories of such demands that reflected work-related uncertainties (e.g., risk of losing one's job), work-related expectations (e.g., need to learn new skills in the work place), and family-related uncertainties (e.g., ambivalence concerning family planning). Furthermore, we explored some socio-demographic predictors of these trajectories and were particularly interested in possible correlations between these trajectories in order to study how multiple demands in multiple domains of functioning interact with each other. For doing so, we capitalized four waves of data from a sample of young adults from Germany who provided self-reports on their demands experienced between 2005/06 and 2009, i.e., in the time just before the GFC until its preliminary peak. Although, in hindsight, the actual effects of the GFC in Germany were not as detrimental as initially anticipated (see Bosch, 2011), we expected that its psychological effects were real, especially at its outset, and that we would be able to measure these effects.

Sociodemographic Correlates of Demand Load Trajectories

The model underlying the current research (Pinquart & Silbereisen, 2004; Silbereisen et al., 2010, 2012) suggests that macro-level events, such as the GFC, do not affect individuals directly. Rather, these events change the more proximal opportunity structures in the micro-level contexts of functioning, such as work and family life, which in turn is perceived by individuals in terms of new demands that may comprise either new uncertainties or new expectations. These new demands are not distributed

randomly in the population. Rather, the model also suggests intraindividual differences in the perceived load of demands as a function of different psychosocial resources, institutional filters (e.g., employment status; see Mills, Blossfeld, Buchholz, Hofäcker, Bernardi, & Hofmeister, 2008) and the economic context, but also of how successfully individuals cope with these demands. For instance, the load of demands related to work uncertainty was found to be higher in regions with more precarious labor markets, in those who were unemployed, in those who were divorced, and in those with low levels of educational attainment (Tomasik & Silbereisen, 2009). Although these socio-demographic differences have been found to replicate in an independent sample (see Wasilewski, 2015), there are several reasons to assume that these differences might not be stable over time. First, because the findings reported are based on correlative data collected at a single time-point, they might reflect just a snapshot of a long-term change process and thus be misleading. Second, data on which Tomasik and Silbereisen (2009) based their results were collected in a period of relative economic stability and prosperity in the labor markets. It might be, however, that during the turmoil of the GFC other socio-demographic groups were affected than during periods of stability. Third, and maybe most importantly, individuals are not passive victims of demands of social change, but rather try to cope with them either in terms of engagement or disengagement. We (Tomasik, Silbereisen, & Pinguart, 2010; Tomasik et al., 2013) found more engagement-type of coping in individuals from regions with a more precarious labor market, in women, in those who were living together with a partner, and in those who were employed as compared to the unemployed or those outside of the labor market. Disengagement type of coping (for details, see Tomasik, Silbereisen, & Heckhausen, 2010) was more prevalent in individuals from more affluent regions, in men, in those outside of the labor market, and in those not living together with a

partner. If successful, both engagement and disengagement can reduce the load of demands over time or at least prevent its undue increase during times of economic turmoil. Based on these considerations and previously published studies, we propose the following hypotheses with regard to the trajectories of demands of social change in the three domains of functioning during the advent of the GFC.

Age

In the research cited above (which is limited to young adulthood), age was unrelated to the load of demands and unrelated to the way that individuals coped with these demands. This notwithstanding, we expected that younger people would evidence a steeper increase in perceived demands facing the GFC. Not protected by seniority and oftentimes just navigating the transition to work life, younger people are often found to be the most vulnerable group in terms of perceived job insecurity (see Anderson & Pontusson, 2007; Pacelli, Devicienti, Maida, Morini, Poggi, & Vesan, 2008), although they usually have higher chances of re-employment (see Erlinghagen, 2008).

Gender

Although there were no gender differences in the load of demands in previously published research, women reported more engagement and men more disengagement concerning these demands. All of these findings do not allow prediction of a clear direction of effects over time. We assumed that, due to the higher centrality of work in men's lives, men would report an increase in work-related demands facing the GFC, whereas due to the higher centrality of family in women's lives, women would report an increase in family-related demands over time.

Region of Residence

In previous research, participants from the less affluent East reported a higher load of demands, and at the same time more engagement and less disengagement with

them. In formulating our hypotheses, however, we reverted to economic research showing that the economy in Eastern Germany was less severely affected by the GFC as compared to Western Germany (e.g., Bechmann, Dahms, Fischer, Frei, & Leber, 2010). The structure of the economy in Eastern Germany is characterized by a relatively small industrial sector, less business services, a lower export orientation, and fewer employees in high-production operations. All of this contributes to its lower productivity as compared to the West, but at the same time, has turned out to constitute an economic advantage in the turmoil of the GFC.

Employment Status

Previous research has shown that those who are unemployed (and to a lesser extent, also those who are outside of the labor market) are facing the double jeopardy of being confronted with a high load of demands and at the same time not having the resources available to effectively cope with them. As the GFC has certainly not improved the situation facing the unemployed, we hypothesized that the increase of the demand load would be particularly high in this group.

Level of Education

Lower education was associated with the perception of more demands, at least when demands related to uncertainty are investigated. Demands concerning new expectations, such as the need to learn new skills or to work more autonomously, might exhibit positive correlations with educational attainment. Furthermore, because the GFC impacted virtually all sectors of employment and employees at all levels were affected, we had no predictions concerning the trajectory of demands as a function of educational attainment.

Marital Status

In previous research, having a partner was associated with a lower load of

demands, more engagement, and less disengagement. Hence, having a partner could be considered a “protective factor” against experiencing too many demands. This might be especially the case in the emergence of turmoil in the labor markets and general uncertainty because a partner could provide another source of income when one’s own job is threatened. We therefore expected that having a partner would be associated with a slower increase in demands of social change over time.

Intercept and Slope of Demand Load within a Single Domain

Research on social inequality often finds what is sometimes referred to as the “Matthew Effect” (see Merton, 1995). The effect describes the accumulation of disadvantages over time in individuals who are already disadvantaged. As our demands comprise negatively conceived uncertainties and stressors, we expected that people who already perceive a high level of demands in their life will do so even more when facing the uncertainties of turmoil of the GFC. In other words, we expected a positive correlation between the intercept and the slope of the demand load in all three domains investigated.

This hypothesis is not trivial, given that one could equally plausibly assume that the correlation might be negative. Those who, before the GFC, felt in a relatively privileged and secure position, might have been impacted by the unprecedented uncertainty particularly strongly as beliefs hitherto thought to be safe and definite were disintegrating virtually overnight. In addition, those already reporting a high load of demands could not rise much higher, at least when the analyses are based on self-reports using closed scales.

Associations between Demands Load Trajectories of Different Domains

In the current study, we analyzed the intraindividual trajectories of demands that reflected work-related uncertainties, work-related expectations, and family-related

uncertainties. Hence, we were able to formulate hypotheses regarding how the trajectories co-vary between the different domains and hence how multiple demands in multiple domains of life develop over time.

Concerning the correlations between the three intercepts, we expected that those who reported higher uncertainty in one domain would also report higher uncertainty in the other domain, but uncertainty would not be substantially correlated with new expectations. Technically, we therefore suggest a two-factor structure of demands with uncertainty and expectations constituting the two underlying factors. If this was true, one could assume that a general, undifferentiated acquiescence to all kinds of demands is not a major issue in the data.

Concerning the correlations between the intercepts and slopes of different domains, we again hypothesized positive correlations here. In other words, we expected cumulative disadvantage to spill over between the different domains. People who felt overburdened in one domain would most likely lack the reserve capacities to cope with demands in the other domains. This would be particularly true if they selectively optimized in one domain at the expense of the other. If our hypothesis was fully confirmed, this would also mean that uncertainties and expectations may influence each other over time.

Finally, we also had expectations concerning the correlations of the different slopes in the three domains. As it is not very plausible to assume that an increase in one domain of demands would go together with a decrease of demands in another, there is either the possibility that demands in the different domains develop virtually independent of each other or that they develop in parallel. We expected that all slopes would be highly positively correlated. Because the nature of the GFC was that it was virtually impossible to predict what would happen next, we thought that the GFC would

manifest itself in all domains to a similar extent. Although this might be different for other social events, we believe that once an event is sufficiently broad and not very well defined, such an undifferentiated impact is rather the rule than an exception.

Method

Participants and Procedure

The sample analyzed represents the longitudinal sample of the *Jena Study on Social Change and Human Development*. Respondents were drawn from four (out of 16) federal German states. These comprised two economically wealthier states from the Eastern and Western part of Germany, respectively (Thuringia and Baden-Wuerttemberg) and two economically poorer federal states from the East and the West (Mecklenburg-Western Pomerania and Schleswig-Holstein). Each federal state was divided further into approximately the same number of smaller regional units (administrative districts or counties with an average population of approximately 170,000 inhabitants; see Tomasik, 2012, for a comprehensive list of districts selected), and within each regional unit, sampling points were selected at random. Starting with these sampling points, interviewers from a professional public opinion institute followed a random route in order to identify households where they selected appropriate participants by a pre-specified procedure. The selection of participants was stratified with regard to age, gender, educational status, and community size. Face-to-face interviews of 60 to 90 minutes were conducted with all respondents who agreed to participate. Participants received no monetary compensation.

The first wave of data collection took place between December 2005 and January 2006, and comprised $N = 2,863$ young adults aged between 16 and 42 ($M = 31.23$, $SD = 8.68$) years. Approximately 54.1% of these participants were male ($N = 1,548$); 24.4%

were from Mecklenburg-Western Pomerania ($N = 698$); 24.8% from Thuringia ($N = 709$); 26.2% from Baden-Wurttemberg ($N = 751$); and 24.6% from Schleswig-Holstein ($N = 705$). Other characteristics of the total sample are summarized in Table 1 in the column labeled “T₁”. Of all participants, $N = 1,296$ agreed to be contacted again for a follow-up interview. The characteristics of this subsample are summarized in Table 1 under the heading “T_{con}”.

One year later, we contacted almost all participants of those who agreed to be contacted and invited them to participate in the follow-up interview. Of those contacted, $N = 606$ participants finally agreed to be actually interviewed and completed the second interview between January and March 2007. All means and proportions reported in the following refer to this longitudinal sample, if not otherwise stated. We repeated this procedure approximately three (i.e., between January and April 2008) and four years (i.e., between May and September 2009) after the initial interview, and were able to interview $N = 473$ and $N = 230$ individuals, respectively. Again, the sample characteristics of this longitudinal sample are displayed in Table 1.

Selectivity analysis showed that the longitudinal sample was quite comparable with the total sample both on the demands variables and on most of the sociodemographic variables. Remarkably, the proportion of participants who were married or divorced tended to increase across the four waves at the expense of the other employment groups; and the proportion of participants who were unemployed tended to increase at the expense of those who were outside of the labor market. Further details on sampling and the interview manual are provided by Silbereisen and colleagues (2006) and Reitzle (2008).

Measures

Sociodemographic variables. Most of the sociodemographic variables were

assessed at the beginning of the interview. Education was recoded into a dichotomous variable distinguishing no formal degree or very basic education (*Hauptschule*) from further schooling beyond basic education (*Realschule* and *Gymnasium*) graduation from high school. Those who were still in school were asked to report their current school track, whereas those who were no longer in school reported their highest degree attained.

Occupational status was assessed in terms of employment and unemployment. The latter group was subdivided into those who were searching for a job in the last four weeks and who were willing to accept a job offer in the next two weeks (labeled “unemployed”), those who did not meet these criteria for unemployment as defined by the International Labor Office (ILO; labeled “outside the labor market”), and those who were still enrolled in school or an academic or vocational training program (labeled “students”). Those “outside the labor market” comprised homemakers, men and women on parental leave, or registered unemployed who did not meet the ILO criteria. All other sociodemographic data were based on direct self-report.

Demands of social change. Demands were assessed as statements reflecting temporal comparisons that were introduced by the prompt “When considering the past 5 years...” at T1 and “When considering the past 12 months...” at the subsequent measurement occasions. As the age range of the sample covered people who were still in education and training, and because being out of work corresponds to somewhat different demands compared to those employed, the wording of the statements was slightly adapted for those still in education/training and those not in regular employment. Participants were asked to rate their endorsement of the statement on a scale ranging from 1 (“does not apply at all”) to 7 (“fully applies”).

In the present analyses, we considered three groups of demands in two different

domains of life. Work-related uncertainties covered topics, such as difficulties in career planning, precarious working conditions, and risk of job loss. The respective statements with the corresponding mean endorsement at T1 were "...it has become more difficult to plan my career path" ($M = 4.03$; $SD = 2.15$), "...today I have to be prepared more for the possibility of reluctantly only working part-time instead of full-time" ($M = 4.47$; $SD = 2.17$), "...the risk of losing my job has increased" ($M = 4.53$; $SD = 2.26$), "...it is now more likely that I will be forced to accept a job requiring lower qualifications than those I have" ($M = 4.73$; $SD = 2.08$), and "...there are currently fewer job opportunities for me" ($M = 5.26$; $SD = 1.99$). The internal consistency of a mean-composite scale was $\alpha = .86$.

Family-related uncertainties covered topics, such as ambivalence in family planning, depreciation of informational support, and risk of separation. The respective statements were "...I have now take more things into account when it comes to decisions concerning the relationship with my partner or family" ($M = 4.64$; $SD = 2.09$), "...it is more difficult to decide, given my present life circumstances, whether I want to have a(nother) child or not" ($M = 4.14$; $SD = 2.33$), "...the knowledge and experiences of my parents now provide less sense of direction in my life" ($M = 3.56$; $SD = 1.89$), "... my personal contacts are now less reliable" ($M = 3.01$; $SD = 1.82$), and "...it is now more likely that my partner could leave me" ($M = 3.09$; $SD = 2.15$). The internal consistency of this scale was $\alpha = .77$.

Work-related expectations covered topics, such as life-long learning, the need for new skills in the work place, and the need to show higher commitment and performance. The respective statements were "...I now have to spend more of my leisure time engaging in further education" ($M = 4.94$; $SD = 1.77$), "...my job now demands that I work at a higher level of independence and autonomy" ($M = 5.78$; $SD = 1.54$), "...my job now demands increasingly more skills in dealing with other people" (M

= 5.32; $SD = 1.64$), "...I now have to show more commitment and make a greater effort to attain the same standard of living" ($M = 5.65$; $SD = 1.50$), and "...at work I now have to learn more new things such as foreign languages or the use of new technologies" ($M = 5.02$; $SD = 1.50$). The internal consistency of a mean-composite scale was $\alpha = .70$.

Results

Single Latent Growth Models

For each of the three domains, we estimated a linear latent growth model (LGM) capturing intra-individual trajectories of perceived demand load across the course of the study. For each measurement occasion, the five respective items formed a latent indicator which loadings were set to be equal across all four measurement occasions in order to ensure measurement equivalence. Furthermore, the intercepts of each respective item were set to be equal across the four measurement occasions, and the respective residuals were allowed to covariate freely.

In order to account for the shift of the time frame from five years to 12 months after the first measurement, we included a method growth factor which loadings were set to $\lambda = [-1.25, 0, 0, 0]$, and its variance fixed to zero. We will not further discuss or interpret this method factor. The loadings of the linear growth component were set to $\lambda = [-1.25, 0, 1, 2.33]$, and the variance was set to be freely estimated. In some models, we also included a quadratic growth component, which loadings were set to $\lambda = [1.56, 0, 1, 5.43]$. The linear component can be thought of as representing change in the less turbulent times pre-GFC, whereas the quadratic component presumably represents the effect of the GFC. Estimation was performed using Mplus version 6.12 (Muthén & Muthén, 1998-2010) and the full-information maximum likelihood (FIML) estimator (see Enders & Bandalos, 2001).

For work-related uncertainties, a quadratic LGM fit the data best, $\chi^2 = 279.51$ (df

= 162, $p < .001$), RMSEA = .035, CFI = .98, TLI = .97, SRMR = .045. In this model, the intercept, the linear, and the quadratic components had significant variance (all $ps < .001$). The linear component indicated a marginally significant decrease ($M = -.19$; $SE_M = .10$; $p = .05$), whereas the quadratic component was significantly positive ($M = .10$; $SE_M = .04$; $p < .05$). This former finding reflects the actual macroeconomic situation at that time with declining unemployment rates and economic growth, whereas the latter finding is probably indicative of the turbulences related to the GFC. Removing the quadratic component would have significantly deteriorated the model fit, $\Delta\chi^2 = 39.45$ ($df = 4$, $p < .001$).

For family-related uncertainties, a linear LGM fit the data best, $\chi^2 = 381.06$ ($df = 166$, $p < .001$), RMSEA = .046, CFI = .91, TLI = .89, SRMR = .062. Both the intercept and the linear components had significant variance ($ps < .001$), but the linear component was not significantly different from zero ($p = .85$). Tentatively adding a quadratic component did not significantly improve the model fit $\Delta\chi^2 = 4.67$ ($df = 4$, $p = .20$).

For work-related expectations, again a quadratic LGM fit the data best, $\chi^2 = 310.28$ ($df = 162$, $p < .001$), RMSEA = .039, CFI = .95, TLI = .94, SRMR = .049. The intercept ($p < .001$) and the linear ($p < .05$), as well as the quadratic, components ($p < .01$) all had significant variance, but none of the components' means significantly differed from zero ($.16 < p < .53$). Removing the quadratic component would have significantly reduced the model fit, $\Delta\chi^2 = 23.75$ ($df = 4$, $p < .001$).

The fact that, in the two domains of the work context, we found a quadratic model to fit the data best and in the family context a linear model represented the data best might be indicative of the historical period in which the study took place. Because the quadratic component has its strongest effect at the last measurement occasion that coincides with the outset of the world financial and economic crisis, this component

probably represents the specific effect of this very measurement occasion. It seems that the crisis had its strongest effect in terms of work uncertainties (where we observe a significant amplitude in the demand load, even at the level of the entire sample), an intermediate effect in terms of work expectations (with no overall effect at the group level), and no effect in the family domain (where the linear increase tends to continue).

Parallel Process Latent Growth Model

In a next step, we combined the three latent growth models into one parallel process model in which the single measurement components were allowed to freely covariate. The overall model fit was acceptable, $\chi^2 = 2828.13$ ($df = 1669$, $p < .001$), RMSEA = .034, CFI = .90, TLI = .89, SRMR = .072, despite its high complexity.

In this model, all three intercept components were significantly correlated (work uncertainties/family uncertainties: $r = .64$, $p < .001$; work uncertainties/work expectations: $r = .45$, $p < .001$; family uncertainties/work expectations: $r = .64$, $p < .001$), indicating that demands tend to accumulate across different contexts and domains. Note, however, that the cross-domain correlation (i.e., uncertainties vs. expectations) was lower than the cross-context correlations (i.e., work vs. family).

Furthermore, the intercept components were correlated with the other growth components, both within and across domains. A higher work uncertainties intercept was positively correlated with the linear component of work uncertainties ($r = .35$, $p < .01$) and work expectations ($r = .39$, $p < .001$), but negatively with the quadratic component of work uncertainties ($r = -.42$, $p < .001$) and work expectations ($r = -.40$, $p < .001$). A higher family uncertainties intercept was positively correlated with the linear component of work uncertainties ($r = .20$, $p < .05$) and work expectations ($r = .29$, $p < .001$), but negatively with the quadratic component of work uncertainties ($r = -.26$, $p < .01$) and work expectations ($r = -.21$, $p < .05$). In addition, a higher work expectations

intercept was positively correlated with the linear component of work uncertainties ($r = .29, p < .05$) and with the linear component of work expectancies ($r = .52, p < .001$), but negatively with the quadratic component of work uncertainties ($r = -.42, p < .001$) and the quadratic component of work expectations ($r = -.52, p < .001$). Taken together, in two out of three possible cases, a higher intercept was positively correlated with the “own” linear component, and in four out of six possible cases it was positively correlated with the linear component of another demands load variable. This finding overall supports the notion of cumulative disadvantage. However, in all two possible cases, a higher linear component was at the same time negatively correlated with the “own” quadratic component, and in all four possible cases it was negatively correlated with the quadratic component of another demands load variable, which overall substantially reduces the linear effect. Hence, a higher intercept always alleviated the quadratic effect. As the quadratic component has its strongest effect by far at the last measurement occasion (which, as outlined above, coincides with the beginning of the financial crisis), it seems that a high demand load at the outset of the study was rather protective against an undue demand load both within and between contexts and domains, whereas a low demand load at the outset of the study resulted in an overly high load of demands at the end.

Of particular interest are the correlations between the different growth components that are indicative of parallel trajectories across the different contexts and domains. Again, a quite robust picture of effects emerged. The linear component of work uncertainties was positively correlated with the linear component of family uncertainties ($r = .50, p < .001$) and work expectations ($r = .65, p < .001$), but negatively with the quadratic component of work uncertainty ($r = -.69, p < .001$) and work expectations ($r = -.47, p < .001$). In addition, the linear component of work expectations

was positively correlated with the linear component of family uncertainty ($r = .59, p < .001$) and negatively with the quadratic component of work uncertainty ($r = -.67, p < .001$) and work expectations ($r = -.60, p < .001$). The linear component was negatively correlated with the quadratic component of work uncertainties ($r = -.28, p < .05$) and work expectations ($r = -.39, p < .01$). Finally, the two quadratic components of work uncertainties and work expectations were positively correlated ($r = .64, p < .001$).

Taken together, we found that all linear components (and the two quadratic components) were positively correlated among each other, but that the correlations between the linear and the quadratic components were negative both within and across contexts and domains. In other words, the trajectories of work uncertainties, family uncertainties and work expectations are highly parallel, and exhibit the characteristic that a stronger linear increase reduces the quadratic amplitude and a weaker linear increase exacerbates it.

Conditional Parallel Process Latent Growth Model

In order to test whether the trajectories of demand load could be reliably predicted by socio-demographic variables, we extended the parallel process LGM by covariates predicting the single growth components. The fit of this model was just acceptable, $\chi^2 = 3832.36$ ($df = 2189, p < .001$), RMSEA = .035, CFI = .87, TLI = .86, SRMR = .067. The intercept of work uncertainties was higher in the Eastern part of the country ($\beta = .23, p < .001$), for the unemployed ($\beta = .33, p < .001$) and those in education and training ($\beta = .26, p < .001$), but lower for those outside of the labor market ($\beta = -.14, p < .05$) and those with higher education ($\beta = -.18, p < .001$). We found no significant sociodemographic predictors for the linear or quadratic component of work uncertainties.

For family-related uncertainties, a higher intercept was associated with lower

age ($\beta = -.21, p < .01$), being female ($\beta = .11, p < .05$), living in the Eastern part of the country ($\beta = .49, p < .001$), and being unemployed ($\beta = .12, p < .05$). Those outside of the labor market, however, had a significantly lower intercept ($\beta = -.20, p < .001$). We found no significant sociodemographic predictors for the linear component of family uncertainties.

Finally, for work-related expectations, the intercept was higher for those living in the Eastern part of Germany ($\beta = .26, p < .001$), the unemployed ($\beta = .19, p < .001$), and those with higher education ($\beta = .12, p < .05$). The linear component was steeper for those living in the East ($\beta = .23, p < .001$), and there were no significant predictors for the quadratic component of work-related expectations.

In sum, the analyses showed that, whereas we were able predict the intercept of all three demand load variables at least to some extent, there were virtually no systematic associations between sociodemographic variables and the trajectories of demand load over time. Tentatively changing the parametrization of the growth components and tentatively reducing the complexity of the model by removing the quadratic components yielded a similar picture. Although there is systematic change in the trajectories, this change is largely unaffected by the sociodemographic characteristics of the individuals.

Probing for Subgroups by Estimating Conditional Mixture Latent Growth Models

One possible reason for the null findings concerning the predictor of the trajectories could be that the overall sample consists of qualitatively different subgroups, so that an overall analysis might have obscured different patterns of trajectories and different predictors of trajectories in the different subgroups. To rule out this possibility, we set up conditional mixture LGMs (e.g., Muthén, 2004) for two, three, and four subgroups that were estimated from the data. All sociodemographic

variables were used to estimate group membership, but otherwise the model was the same that we used in the conditional parallel process LGM analysis. Considering more than four groups would have yielded solutions with extremely small groups that we would probably not be able to replicate in a cross-validation analysis. We considered four fit indices to determine the optimal number of groups: the Akaike (AIC) and Bayesian (BIC) information criteria (see Sclove, 1987), an entropy measure (see Ramaswamy, DeSarbo, Reibstein, & Robinson, 1993), as well as the Lo-Mendell-Rubin likelihood ratio test (see Lo, Mendell, & Rubin, 2001). Results of these analyses were mixed. The AIC indicated constant improvement of model fit with increasing number of groups, the BIC reached its minimum for three groups, entropy was generally low (with .35 for two groups, .70 for three groups, and .71 for three groups), and the likelihood ratio test was nonsignificant starting with the two-group solution (2 vs. 1 groups: $p = .76$; 3 vs. 2 groups: $p = .12$; 4 vs. 3 groups: $p = .41$). Overall, the findings suggest that an overall analysis can be justified, and there is no clear indication of qualitatively distinct subgroups with qualitatively distinct trajectories of demands load.

Discussion

The GFC of the late 2000s did not only have major repercussions on economies worldwide (see Foster & Magdoff, 2009), but also left a psychological mark in terms of new demands that individuals perceived and needed to cope with. In our research, we were able to capitalize on the historical circumstance that we had collected data just before the advent of the GFC in 2005 until its outbreak in 2008 and 2009. Using this data, we have formulated some hypothesis concerning the trajectories of demands in three different domains of functioning, as well as hypotheses concerning possible sociodemographic correlates of these trajectories. Furthermore, we probed for possible subgroups in the population that would evidence specifically distinct patterns of these

trajectories.

Concerning the sociodemographic correlates of trajectories, the results are quickly summarized. Although we were able to identify some significant and meaningful correlations of socio-demographic variables with the intercept of the demand load in all three domains, their slopes were virtually independent of the social background of the study participants. This null result can certainly not be attributed to lacking statistical power, as our sample was sufficiently large to detect even small effects (i.e., $d = .10$) with a probability of $1 - \beta = .80$ (Kaplan, 1995; Soper, 2016). We therefore conclude that broad socio-demographic characteristics have no predictive power for inter-individual differences in the trajectories of demands related to work and family. This finding might be explained by the nature of the GFC itself, which main structural feature was unprecedented uncertainty concerning its extent and impact. Variables capturing socio-demographic characteristics in more detail, such as the actual sector of employment, the type of work contract, or the occupation of the partner, might have been more optimal, but would have extended beyond topics in which we, as psychologists, were interested. Taken together, to what extent people are affected by structural uncertainty cannot be explained with simple socio-demographic characteristics, but must be considered as random, at least at this broad level of differentiation.

The second null finding that we obtained concerned the identification of qualitatively distinct subgroups that would evidence different patterns of trajectories. Our analyses suggest that such distinct groups do not exist, but rather that one model is sufficient to describe all trajectories in the entire population with reasonable precision. This not only simplifies the interpretation of the following results, but is also interesting for its own sake. The finding indicates that the trajectories of demands were not

dependent on some unmeasured variables, but rather randomly distributed in the population. Together with the lack of correlations of the trajectories with socio-demographic variables, this leads us to conclude that we have been observing a process that was largely unpredictable – at least at the present level of investigation. This coincides with the unpredictable nature of the event studied. The fact that we found significant change on the group level only for work-related demands (that were presumably more prone to the effects of the GFC) and not for family-related demands (that were presumably not that strongly affected by the GFC) supports this interpretation.

The fact that we could not predict the trajectories by socio-demographic variables and the fact that we could not identify distinct subgroups does not mean that the trajectories of demands were unsystematic or even erratic. On the contrary, we found strong associations between the growth components of the different domains that strongly confirmed most of our hypotheses. First of all, all three intercepts were positively correlated, suggesting that demands tend to spill over between different domains and/or that there are confounding variables that explain a high load of demands in the different domains. Both explanations are plausible, and we have provided empirical for both of them. The spill-over effect can be well observed in the positive correlations between the intercept and the linear slope between the different domains. In addition, the confounding variable explanation is evident in the similar patterns of socio-demographic variables predicting the intercept. Taken together, it seems that someone who reports a high load of demands in one domain will most likely report a high load of demands in the other. Against our expectations, the cross-domain correlations for uncertainties and expectations were almost as high as the within-domain correlation for uncertainty.

Concerning the correlations between the intercepts and the dynamic growth components (i.e., the linear slope presumably representing change in less turbulent times and the quadratic component presumably representing the effect of the GFC), we obtained both expected and unexpected results. Expected was the result of positive correlations between the intercepts and the linear slopes both within and between domains. This finding reflects the assumed “Matthew effect” of cumulative disadvantage over time. Given the ubiquitous possibility of a regression-to-the-mean artifact, this finding constitutes strong evidence that demands of social change tend to accumulate over time.

Against our expectations, however, we found that the intercepts and the quadratic growth components were negatively correlated with each other. If one interprets the quadratic component as the effect attributable to the GFC, this finding indicates that those who initially experienced low levels of uncertainty and expectations were impacted by the GFC particularly strongly. Those who already experienced high levels of uncertainty and expectations, however, were least affected by the GFC. If this finding reflects true change and not just a methodological artifact, one could conclude that already living with a high load of uncertainty and expectations inoculates against random shocks produced by unpredictable events, such as the GFC. Certainly, more work needs to be performed to identify the precise mechanisms of why this is the case, but this finding already points to a possible and probably rare psychological advantage of experiencing a high load of demands (see Mancini, Littleton, & Grills, 2016, for a similar way of reasoning).

Finally, we found strong and systematic correlations between the single dynamic growth components in the different domains of functioning. This finding suggests that the trajectories of demands in the different domains run highly parallel. Although not

predictable by measured or unmeasured variables, there seems to be systematic change. This finding indicates the possibility of an increasingly limited reserve capacity that relates to all domains alike and that depletes evenly across these domains. If our interpretation is correct, this would point to a possible mechanism underlying spill-over effects between different domains of functioning. More research is needed to confirm this interpretation by measuring individual resources and coping efforts over time.

Taken together, our study shed light on the dynamics of multiple demands in multiple domains of functioning. We conclude that who were affected by the GFC and who were not could not be systematically predicted by core socio-demographic variables, which probably reflects the nature of the GFC. Moreover, we did not find any specific risk groups who evidenced a completely distinct pattern of demand accumulation over time. However, the dynamic itself was highly systematic. We found evidence for both cumulative disadvantage and an inoculation effect in those who already struggled with a high load of demands prior to the GFC.

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Table 1

Characteristics of the longitudinal sample in terms of wave 1 variables

	<i>M</i>				
Variable	T ₁	T _{con}	T ₂	T ₃	T ₄
Work uncertainties	4.52	4.65	4.63	4.70	4.65
Family uncertainties	3.83	3.81	3.72	3.69	3.69
Work expectations	5.28	5.42	5.38	5.31	5.23
Age (in years)	31.2	31.0	32.4	33.0	33.8
Gender (% female)	54.1	56.8	59.6	58.6	58.2
Education (% high)	69.5	71.2	71.0	70.6	70.0
Region (% East Germany)	49.1	60.9	54.5	56.0	51.7
Employment status					
% employed	51.4	47.9	51.8	53.4	53.9
% unemployed	11.3	15.0	13.5	14.6	16.1
% outside labor market	20.8	20.4	17.5	14.2	12.6
% students	16.5	16.7	17.2	17.8	17.4
Marital status					
% married	36.5	36.6	41.3	43.9	44.7
% cohabitating	21.9	23.3	20.1	19.7	17.0
% singles	32.2	31.4	28.2	25.6	25.7
% divorced/widowed	9.4	8.7	10.4	10.8	12.6